

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

ORDER NO. 84-38  
NPDES NO. CA0037966

REISSUING WASTE DISCHARGE REQUIREMENTS FOR:

CITY OF CALISTOGA  
NAPA COUNTY

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter called the Board) finds that:

1. The City of Calistoga, hereinafter called the discharger, submitted a report of waste discharge dated April 4, 1984 for reissuance of NPDES Permit No. CA0037966.
2. The discharger presently discharges an average dry weather flow of 0.47 million gallons per day (mgd) from its tertiary treatment plant which has a dry weather design storage capacity of 0.55 mgd. The treated wastewater (domestic) from the City is discharged into Napa River, a water of the United States, through an outfall at 38° 33' 34" North, latitude and 122° 33' 28" West longitude. The effluent may be discharged to the Napa River during the period September 30 through May 16 as long as it meets a minimum of 10:1 river to wastewater dilution. During the dry weather period all treated wastewater is reclaimed, and the reclamation is covered by a different set of Waste Discharge Requirements adopted by the Board in Order No. 78-85.
3. The wet weather discharge is presently governed by Waste Discharge Requirements Order No. 79-87 and Order No. 83-38 which allows discharge into Napa River.
4. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Region (Basin Plan) on July 21, 1982. The Basin Plan contains water quality objectives for Napa River.
5. The Basin Plan prohibits discharge of wastewater which has characteristics of concern to beneficial uses into any nontidal water. An exception can be considered for wet weather and other discharges having a high initial dilution where the discharge is approved as a part of a reclamation project.

The Board finds that the Napa River is a nontidal water at Calistoga; but the discharge, under the requirements of this order, complies with the qualification for considering an exception to the prohibition against discharge to nontidal water and the Board allows the discharge.

6. The beneficial uses of the Napa River downstream from the point of discharge are:

- a. Agricultural water supply for stock watering, irrigation and frost protection
  - b. Water contact recreation
  - c. Fish migration and habitat
  - d. Preservation and enhancement of fish, wildlife and other aquatic resources.
  - e. Esthetic enjoyment
  - f. Navigation
  - g. Commercial and Sport Fishing
7. An Operations and Maintenance Manual is maintained by the discharger for purposes of providing plant and regulatory personnel with a source of information describing all equipment, facilities, and recommended operating strategies, process control monitoring, and maintenance activities. In order to remain a useful and relevant document, this manual should be kept updated to reflect significant changes in plant facilities or activities.
  8. This Order serves as an NPDES permit, adoption of which is exempt from the provisions of Chapter 3 (commencing with Section 21100) of Division 13 of the Public Resources Code (CEQA) pursuant to Section 13389 of the California Water Code.
  9. The discharger and interested agencies and persons have been notified of the Board's intent to reissue requirements for the existing discharge and have been provided with the opportunity for a public hearing and the opportunity to submit their written views and recommendations.
  10. The Board, in a public meeting, heard and considered all comments pertaining to the discharge.

IT IS HEREBY ORDERED, that the City of Calistoga in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted thereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted thereunder shall comply with the following:

A. Discharge Prohibitions

1. Bypass or overflow of untreated or partially treated wastewater to waters of the State either at the treatment plant or from any of the collection system and pump stations tributary to the treatment plant is prohibited.
2. The average dry weather flow shall not exceed 0.55 million gallons per day (mgd). Average flow shall be determined over three consecutive dry months each year. The Board will consider

amending this prohibition once the discharger has demonstrated through a water balance that additional facilities have been constructed and are operational to meet the requirements of this Order for additional dry weather flows.

3. Discharge at any point at which the wastewater does not receive a dilution of at least 10:1 (river to wastewater effluent flow) is prohibited.
4. The discharge to the Napa River is prohibited during the period from May 16th through September 30th of each year. The Executive Officer may authorize discharge to the river for a specified period beyond May 15 based on a written request from the dischargers documenting abnormally high rainfall and resultant lack of demand for reclaimed water.

B. Effluent Limitations

The discharge of effluent from the tertiary plant outfall and the oxidation pond outfall shall meet one of the following sets of limitations based upon the river to wastewater dilutions as specified:

1. For a river to wastewater dilution of at least 10:1 but less than 50:1:

<u>Constituent</u>	<u>Unit</u>	<u>30-Day Average</u>	<u>Daily Maximum</u>	<u>Instantaneous Maximum</u>
a. Settleable Matter	ml/l-hr	0.1		0.2
b. BOD	mg/l	10	20	
c. Suspended Solids	mg/l	15	30	
d. Grease & Oil	mg/l	5	10	
e. Turbidity	TU		10 for at least 95% of the time for a 24-hr period	
f. Chlorine Residual	mg/l			0.0
g. Total Coliform Organisms	MPN/100ml	At some point in the treatment process, 2.2 MPN/100 ml, median of the last seven days for which analyses have been completed		

2. For a river to wastewater dilution of at least 50:1:

<u>Constituent</u>	<u>Unit</u>	<u>30-Day Average</u>	<u>7-Day Average</u>	<u>Daily Maximum</u>	<u>Instan- taneous Maximum</u>
a. Settleable Matter	ml/l-hr	0.1	--	--	0.2
b. BOD	mg/l	30	45	60	--
c. Suspended Solids	mg/l	30	45	60	--
d. Grease & Oil	mg/l	10	--	20	--
e. Chlorine Residual	mg/l	--	--	--	0.0
f. Total Coliform Organisms	MPN/100ml	At some point in the treatment process, 23 MPN/100 ml, median of the last seven days for which analyses have been completed			

3. Each discharge shall not have a pH less than 6.5 nor greater than 8.5.
4. In any representative set of samples the waste as discharged at either location shall meet the following limit for toxicity: the survival of test organisms acceptable to the Board in 96 hour bioassays of the effluent shall achieve a median of 90% survival for three consecutive samples and a 90 percentile value of not less than 70% survival for 10 consecutive samples.
5. The arithmetic mean of the values for BOD and Suspended Solids effluent samples collected in a period of 30 consecutive days shall not exceed 15 percent of the arithmetic mean of respective values for influent samples collected at approximately the same times, during the same period. (85 percent removal)
6. Representative samples of the effluent shall not exceed the following limits:<sup>(1)</sup>

<u>Constituent</u>	<u>Unit of Measurement</u>	<u>6 Month Median</u>	<u>Daily Maximum</u>
Arsenic	mg/l	0.01	0.02
Cadmium	mg/l	0.02	0.03
Total Chromium	mg/l	0.005	0.01
Copper	mg/l	0.2	0.3
Lead	mg/l	0.1	0.2
Mercury	mg/l	0.001	0.002
Nickel	mg/l	0.1	0.2
Silver	mg/l	0.02	0.04
Zinc	mg/l	0.3	0.5
Cyanide	mg/l	0.1	0.2
Phenolic Compounds	mg/l	0.5	1.0
Total Identifiable Chlorinated Hydrocarbons <sup>(2)</sup>	mg/l	0.002	0.004

- (1) These limits are intended to be achieved through secondary treatment, source control and application of pretreatment standards.
- (2) Total Identifiable Chlorinated Hydrocarbons shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, polychlorinated biphenyls, and other identifiable chlorinated hydrocarbons.

C. Receiving Water Limitations

1. The discharge of waste shall not cause the following conditions to exist in waters of the State at any place:
  - a. Floating, suspended, or deposited macroscopic particulate matter or foam;
  - b. Bottom deposits or aquatic growths;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin;
  - e. Toxic or other deleterious substances to be present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption either at levels created in the receiving water or as a result of biological concentration.
2. The discharge of waste shall not cause the following limits to be exceeded in waters of the State in any place within one foot of the water surface:
  - a. Dissolved oxygen                      5.0, mg/l minimum. Median of any three consecutive months shall not be less than 80% saturation. When natural factors cause lesser concentration(s) than those specified above, then this discharge shall not cause further reduction in the concentration of dissolved oxygen.
  - b. Dissolved sulfide                      0.1 mg/l maximum
  - c. pH    Variation from natural ambient pH by more than 0.5 pH units.
  - d. Un-ionized Ammonia                      0.025 mg/l as N Annual Median  
0.4 mg/l as N Maximum

3. The discharge shall not cause a violation of any applicable water quality standard for receiving waters adopted by the Board or the State Water Resources Control Board as required by the Clean Water Act and regulations adopted thereunder. If more stringent applicable water quality standards are promulgated or approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the Board will revise and modify this Order in accordance with such more stringent standards.

D. Provisions

1. The requirements prescribed by this Order supersede the requirements prescribed by Order Nos. 79-87 and 83-38. Order Nos. 79-87 and 83-38 are hereby rescinded.
2. Where concentration limitations in mg/l are contained in this permit, the following mass emission limitations shall also apply as follows:  
  
$$\text{Mass Emission Limit in lbs/day} = \text{Concentration limit in mg/l} \times 8.34 \times \text{Actual Flow in mgd averaged over the time interval to which the limit applies.}$$
3. The discharger shall comply with all sections of this order immediately upon adoption.
4. The discharger shall review and update his Operations and Maintenance Manual annually, or in the event of significant facility or process changes, shortly after such changes have occurred. Annual revisions, or letters stating that no changes are needed, shall be submitted to the Regional Board by April 15 of each year. A time schedule for completion of the initial revision shall be submitted by January 15, 1985. Documentation of operator input and review shall accompany each annual update.
5. The discharger shall review and update by April 15 annually its contingency plan as required by Board Resolution No. 74-10. The discharge of pollutants in violation of this Order where the discharger has failed to develop and/or implement a contingency plan will be basis for considering such discharge a willful and negligent violation of this Order pursuant to Section 13387 of the California Water Code.
6. The discharger shall review and update their water balance (based on numbers derived from actual water reclamation data) annually. This report shall be submitted by May 1, of each year.
7. The discharger shall comply with the self-monitoring program as adopted by the Board and as may be amended by the Executive Officer.
8. The discharger shall comply with all items of the attached "Standard Provisions, Reporting Requirements and Definitions" dated April 1977, except A.12 and B.3. Item C.2 of the Standard

Provisions shall read as follows: The "30-day, or 7-day, average" discharge is the total discharge by weight during 30, or 7 consecutive calendar day periods, respectively, divided by the number of days in the period that the facility was discharging. Where less than daily sampling is required by this permit, the 30-day, or 7-day, average discharge shall be determined by the summation of all the measured discharges by weight divided by the number of days during the 30, or 7, consecutive calendar day period when the measurements were made. For other than 7-day or 30-day periods, compliance shall be based on the average of all measurements made during the specified period.

9. This Order expires July 18, 1989. The discharger must file a report of waste discharge in accordance with Title 23, Chapter 3, Subchapter 9 of the California Administrative Code not later than 180 days in advance of such expiration date as application for issuance of new waste discharge requirements.
10. This Order shall serve as a National Pollutant Discharge Elimination System Permit pursuant to Section 402 of the Clean Water Act or amendments thereto, and shall become effective 10 days after date of its adoption provided the Regional Administrator, Environmental Protection Agency, has no objection. If the Regional Administrator objects to its issuance, the permit shall not become effective until such objection is withdrawn.

I, Roger B. James, Executive Officer do hereby certify the foregoing is a full, true and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on July 18, 1984.

ROGER B. JAMES  
Executive Officer

Attachments:  
Standard Provisions &  
Reporting Requirements, April 1977  
Self-Monitoring Program

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION

T E N T A T I V E  
SELF-MONITORING PROGRAM  
FOR

City of Calistoga

Napa County

NPDES NO. CA 0037966

ORDER NO. 84-38

CONSISTS OF

PART A

AND

PART B



PART B

CITY OF CALISTOGA

I. DESCRIPTION OF SAMPLING STATIONS

A. INFLUENT

<u>Station</u>	<u>Description</u>
A-001	At any point in the treatment facilities headworks at which all waste tributary to the system is present and preceding any phase of treatment.

B. EFFLUENT

<u>Station</u>	<u>Description</u>
E-001	At any point in the outfall from the treatment facilities between the point of discharge and the point at which all waste tributary to that outfall is present. (May be the same as E-001-D).
E-001-D	At any point in the disinfection facilities (clear well) for Waste E-001, at which point adequate contact with the disinfectant is assured. Thirty minutes is minimum contact time if used for irrigation of the athletic fields, fairgrounds, railroad recreation area or vineyards and etc.
E-002-D	At any point in the disinfection facilities from the oxidation pond No. 2 overflow weir, at which point adequate contact with the disinfection is assured. (Wet weather discharge location).

C. RECEIVING WATERS

C-1	Located about 500 feet upstream from Percolation Pond #1 in the Napa River.
C-2(D)	Located at the point of discharge (Pond #1) in the Napa River.
C-3	Located in the vicinity of old outfall (i.e. across the clear well) in the Napa River.
C-4	Located about 150 feet upstream from the oxidation pond #2 discharge point in the Napa River.
C-5	Located about 100 feet downstream from the oxidation pond #2 discharge point in the Napa River.
C-6	Located below the Dunweal Road bridge in the Napa River.

D. LAND OBSERVATIONS

L-1 thru L-'n'	Located along the property line at equidistant not to exceed 500 feet. (A sketch showing the locations of these stations will accompany each report).
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E. OVERFLOWS AND BYPASSES

<u>Station</u>	<u>Description</u>
O-1 thru O-'n'	Bypass or overflows from manholes, pump stations or collection system. Note: Initial report by phone for each bypass or overflow.

Reporting - Shall be included in the subsequent monthly monitoring program which shall include date, time, and period of each bypass or overflow.

F. GROUNDWATER

<u>Station</u>	<u>Description</u>
G-1	A well located approximately 200 feet northeasterly of the oxidation ponds.

II. SCHEDULE OF SAMPLING, ANALYSIS, AND OBSERVATIONS

- A. This self-monitoring program is applicable when wastewater is discharged to the Napa River and during Reclaimed Wastewater use.  
The schedule of sampling, analysis and observations shall be that given in Table I.

III. MODIFICATION OF PART "A", DATED 1/78

Exclusions: Paragraphs C-3, C-4, C-5a, C-5c, D-3 and F-3e.

IV. MISCELLANEOUS REPORTING

- A. After poorer quality wastewater is used, compliance with requirements must be documented before wastewater is used on the golf course, athletic fields, fairgrounds, steam railroad recreation area or vineyards. The documentations is to be included in the self-monitoring report.
- B. Users' reports shall be transmitted with the City Self-monitoring report.
- C. The City shall report:
- (1) Time, date, and location of User violations;

- (2) Time and date wastewater service to User was cut off because of violation and then resumed; and
- (3) Corrective action taken.

If Users reports provide the above information, the City need not duplicate.

- D. City shall inspect User areas, weekly, when they are irrigated with wastewater. The inspection report will include the observations required on the Users' self-monitoring report.

I, Roger B. James, Executive Officer, hereby certify that the foregoing Self-Monitoring Program:

1. Has been developed in accordance with the procedure set forth in this Regional Board's Resolution No. 73-16 in order to obtain data and document compliance with waste discharge requirements established in Regional Board Order No.
2. Is effective on the date shown below.
3. May be reviewed at any time subsequent to the effective date upon written notice from the Executive Officer or request from the discharger, and revisions will be ordered by the Executive Officer.

ROGER B. JAMES  
Executive Officer

Effective Date \_\_\_\_\_

Attachments:

Table I (2 pages)  
Notes for Table I  
Map

TABLE 1  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A	E-001		E-001 D	E-002-D		All 'C'	All 'L'	Reclamat. Waste- Water Use		
TYPE OF SAMPLE	C-24	G	Cont	C-24	G	G	C-24	G	O	G	C-24
Flow Rate (mgd)	D										
BOD, 5-day, 20°C, or COD (mg/l & kg/day)	W			W		W				W	
Chlorine Residual & Dos- age (mg/l & kg/day)			Cont or 2H			Cont or 2H					
Settleable Matter (ml/l-hr. & cu. ft./day)		D				D					
Total Suspended Matter (mg/l & kg/day)	W			W		W				W	
Oil and Grease (mg/l & kg/day)		2M									
Coliform (Total or Fecal) (MPN/100 ml) per req't					7/W	3/W				7/W	
Fish Tox'y 96-hr. (2) Surv'l in undiluted waste				M						M	
Ammonia Nitrogen (mg/l & kg/day)				3M							
Nitrate Nitrogen (mg/l & kg/day)				3M							
Nitrite Nitrogen (mg/l & kg/day)				3M							
Total Organic Nitrogen (mg/l & kg/day)				3M							
Total Phosphate (mg/l & kg/day)											
Turbidity (Jackson Turbidity Units)		D					M				
pH (units)		D					M		D		
Dissolved Oxygen (mg/l and % Saturation)		D					M				
Temperature (°C)		D					M				
Apparent Color							M				
Secchi Disc (inches)											
Sulfides (if DO<5.0 mg/l) Total & Dissolved (mg/l)		M					M				
Arsenic (mg/l & kg/day)				Y							
Cadmium (mg/l & kg/day)				Y							
Chromium, Total (mg/l & kg/day)				Y							
Copper (mg/l & kg/day)				Y							
Cyanide (mg/l & kg/day)				Y							
Silver (mg/l & kg/day)				Y							
Lead (mg/l & kg/day)				Y							

TABLE 1 (continued)  
SCHEDULE FOR SAMPLING, MEASUREMENTS, AND ANALYSIS

Sampling Station	A	E-001			E-002-D	E-002-D			All 'C'	All 'L'	Reclamat. Waste-Water Use		All O Sta.
TYPE OF SAMPLE	G	G	Cont	C-24	G	G	C-24	G	O	G	C-24		
Mercury (mg/l & kg/day)				Y									
Nickel (mg/l & kg/day)				Y									
Zinc (mg/l & kg/day)				Y									
Phenolic Compounds (mg/l & kg/day)				Y									
All Applicable Standard Observations								M	W				E
Bottom Sediment Analyses and Observations													
Total Ident. Chlor. Hydrocarbons (mg/l & kg/day)				Y									
Chlorophyll a (3) (mg/l)								M					
Unionized Ammonia as N (3) (mg/l)								M					
River Flow cfs								D					
Volumetric Dilution River to effluent	D					D							
Total Dissolved Solids mg/l & kg/day													

LEGEND FOR TABLE

TYPES OF SAMPLES

G = grab sample  
 C-24 = composite sample - 24-hour  
 C-X = composite sample - X hours  
       (used when discharge does not  
       continue for 24-hour period)  
 Cont = continuous sampling  
 DI = depth-integrated sample  
 BS = bottom sediment sample  
 O = observation

TYPES OF STATIONS

I = intake and/or water supply stations  
 A = treatment facility influent stations  
 E = waste effluent stations  
 C = receiving water stations  
 P = treatment facilities perimeter stations  
 L = basin and/or pond levee stations  
 B = bottom sediment stations  
 G = groundwaters stations

FREQUENCY OF SAMPLING

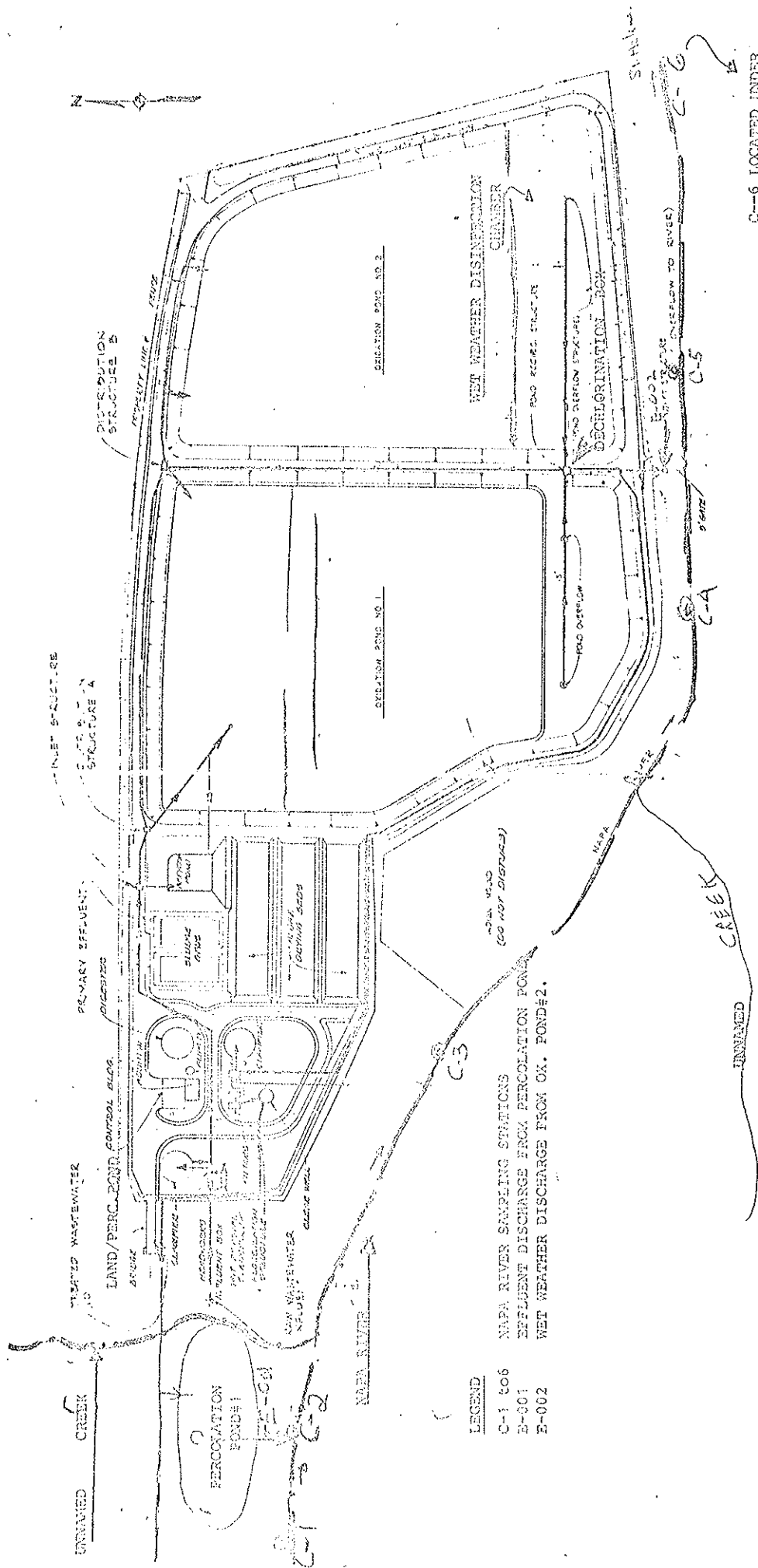
E = each occurrence  
 H = once each hour  
 D = once each day  
 W = once each week  
 M = once each month  
 Y = once each year

2/H = twice per hour  
 2/W = 2 days per week  
 5/W = 5 days per week  
 2/M = 2 days per month  
 2/y = once in March and  
       once in September  
 Q = quarterly, once in  
       March, June, Sept.  
       and December

2H = every 2 hours  
 2D = every 2 days  
 2W = every 2 weeks  
 3M = every 3 months  
 Cont = continuous

NOTES FOR TABLE I

- (1) Oil and grease sampling shall consist of 3 grab samples taken at equal intervals during the sampling day, with each grab being collected in a glass container and analyzed separately. Results shall be expressed as a weighted average of the 3 values, based upon the instantaneous flow rates at the time each grab samples was analyzed.
- (2) Prior to taking the groundwater samples, each well shall be pumped a minimum of five minutes. In addition, depth of each well (feet), depth to water (feet), and depth of sample (feet) shall be reported.
- (3) Toxicity sampling shall be performed during wet weather discharge only.
- (4) Unionized Ammonia as N and chlorophyll shall be tested during periods of discharge to Napa River.



C-6 LOCATED UNDER

UNNAMED BRIDGE

City of Chicago  
WASTEWATER TREATMENT AND  
DISPOSAL FACILITIES  
TREATMENT PLANT  
SITE PLAN

SAMPLING STATION LOCATIONS

LEGEND

- C-1 to C-6 NAPA RIVER SAMPLING STATIONS
- E-001 EFFLUENT DISCHARGE FROM PERCOLATION POND #1
- E-002 WET WEATHER DISCHARGE FROM OX. POND #2